UNITED STATES ENVIRONMENT
CHICAGO IL

May 14, 2001

SR-6J

Mr. E. Jonathan Jackson
Environmental and Safety Compliance Director
The Fansteel Corporation
One Tantalum Place
North Chicago, Illinois 60064

VIA FACSIMILE AND REGULAR U.S. MAIL

Re: Notice of Approval of EE/CA Work Plan
Fansteel, Inc.; North Chicago, Lake County, Illinois

Dear Mr. Jackson:

This letter is in followup to my previous transmittal of comments via facsimile, dated May 8, 2001, by the United States Environmental Protection Agency (U.S. EPA) on the Engineering Evaluation/Cost Analysis (EE/CA) Work Plan prepared and submitted by Earth Sciences Consultants, Inc. (ESCI), on behalf of the Fansteel Corporation.

This letter provides the U.S. EPA's approval of the above mentioned EE/CA Work Plan, contingent upon incorporation of the U.S. EPA's comments into that EE/CA Work Plan. I understand from a conversation with Mr. Breakwell this morning (Monday, May 14, 2001), that ESCI is preparing responses to the comments submitted by the U.S. EPA, will transmit those responses to the U.S. EPA by the end of this week.

If you have any questions, please contact me at your earliest convenience, at (312) 886-1477.

Sincerely,

John J. O'Grady
Remedial Project Manager
Superfund Division (SR-6J)

Enclosure

cc: R. Breakwell (ESCI), T. Krueger (U.S. EPA ORC), M. Mocniak (Fansteel), J. Moore (Illinois EPA), R. Nagam (TN & A), P. Sorensen (Illinois EPA), M. Steger (McBride, Baker & Coles)

Fansteel Inc.
Engineering Evaluation/Cost Analysis Work Plan Review
T N & Associates, Inc.

The following are T N & Associates, Inc's. (TN&A) comments on the Engineering Evaluation/Cost Analysis (EE/CA) Work Plan for Fansteel Inc.

General Comments:

1. Additional soil sampling and characterization is required to address data gaps. These gaps were identified in U.S. EPA and TN&A's comments on the Draft Site Investigation Report and Final Site Investigation Report for Fansteel, Inc.
2. In identifying the Chemicals of Concern (COC), all chemicals present on-site require consideration.
3. Approach described for SRE needs verification from U.S. EPA. A meeting with U.S. EPA risk assessor is necessary.
4. The SRE should include groundwater receptor protective of future drinking water resources.

Specific Comments:

1. **Page 4, Section 3.4 Site Investigation Report, 1st bulleted item: "The HWMU TCE soil plume does not appear to extend onto the Vacant Lot Site"**
   As part of the EE/CA investigations, soil sampling is necessary on the Vacant Lot Site to verify soil contamination due to HWMU. The conclusions in the final Site Investigation Report (Section 7.10) do not address off site soil contamination due to HWMU. The soil boring conducted for installation of monitoring well by Carlson on Vacant Lot Site west of HWMU (GP-28) has elevated levels of organic contamination (final Site Investigation Report Table One: Soil Results - VOCs).
2. **Page 5, Section 3.5 Identification of Data Gaps, last bulleted item: "Additional soil data are not needed to complete the Fansteel EE/CA, and previously collected data will be sufficient"**
   Additional data are required to address soil data gaps. The additional data gap samples collected should be analyzed for metals, VOCs, and SVOCs.
   A) During site investigation activities (Final Site Investigation Report page 6-1, section 6.2, Field Observations), slag-type and fly-ash types of materials were observed but not sampled. This fill material and its characteristics must be evaluated through quantitative chemical analysis.

B) Samples submitted for laboratory analysis were based on PID field screening results. Data gaps remain because several boring depths were not sampled (ex. GP-28 boring has contamination at 8-10 feet depth interval and does not show contamination in the next sampled interval of 16-18 feet depth). Evaluation of these data gaps through chemical analysis of samples is imortant not only for remedial volume estimates but also for streamlined risk evaluation (SRE) where the depth of prevailing contamination is crucial.

C) The area around boring GP-37 is not characterized. Investigation and soil chemical analysis is necessary to identify the source of groundwater contamination in monitoring wells MW-8 and MW-9. This investigation is also necessary for the SRE.

3. **Page 5, Section 2.5 Identification of Data Gaps, last paragraph: "Also, for purposes of evaluating the possibility of an external source area east of the Fansteel property, ...groundwater samples be collected upgradient on the R. Lavin & Sons property..."**

If access is not given, groundwater samples at the perimeter of Fansteel property should be considered.

4. **Page 10, Section 5.2.1.1 Geoprobe® Borings, Off site, 1st bulleted item: "Six *borings within the Vacant Lot Site downgradient of the HWMU source area* (Borings TB-20 through 25)"**

A test boring to the west of GEO-7 and another to the south of TB-20 would help define the boundary of HWMU plume in this area.

5. **Page 10, Section 5.2.1.1 Geoprobe® Borings, On site, 1st bulleted item: "Two borings within Metallurgical Buildings A and B for confirmation of the groundwater plume estimated in this area by Carlson (Borings TB-1 and TB-2)"**

Refer to comment 2 C above. As part of this EE/CA investigation, the source(s) contributing to MW-8 and MW-9 groundwater contamination needs to be identified. Additional borings in Metallurgical Buildings A and B and their chemical analysis is necessary.

6. **Page 12, Section 5.2.2.1 Soil Sampling for Chemical Analysis.**

Earlier comments on additional sampling and chemical analysis are applicable here. Composite sampling is not an approved method of sample collection for VOC analysis.

7. **Page 12, Section 5.2.2.1 Soil Sampling for Chemical Analysis, 4th sentence: "Soil samples will be obtained from uncontaminated borings (near the areas of concern) based on photoionization detector measurements so that analytical results reflect intrinsic soil conditions"**

Explanation is required as to why samples will be collected from uncontaminated borings.

8. **Page 12, Section 5.2.2.1 Soil Sampling for Chemical Analysis, 5th sentence: "Soil samples will be composited using a stainless steel pail and dedicated plastic soil scoops prior to placement into the laboratory container"**
Refer to SOPs for collecting VOC samples. Stainless steel instead of plastic scoops is appropriate.

9. **Page 14, 1st complete paragraph.**
Samples have to be preserved onsite. This will ensure sample stability.

10 **Page 15, Section 5.2.7 Investigation Derived Wastes Management Procedures.**
All decontamination water generated from nondedicated sampling equipment should also be addressed in this section.

11. **Page 16, 1st incomplete paragraph: "Upon completion of field investigations, Fansteel will temporarily stage the drums at an appropriate area on site pending implementation of the approved remedial action"**
Sampling and analysis is necessary in a timely manner to characterize IDW and meet applicable state or local requirements regarding on site storage.

12 **Page 16, Section 5.3 Analytical Program, 1st paragraph:"As previously discussed, soil samples will be collected from 5 unaffected borings near areas of concern for chemical analysis associated with the SRE work"**
The rationale for collecting unaffected boring sample for chemical analysis and SRE is not clear. Further explanation is needed.

13 **Page 17, Section 5.3 Analytical Program, Soil (chemical analyses):**
Analyses for metals, VOCs, and SVOCs in soil is necessary for areas that have been identified in the previous comments. These are areas which have not been sampled before (and where contamination in nearby borings have been identified). The detection levels for these compounds should meet TACO action levels.

14 **Page 17 Soil (chemical analyses), 1st bulleted item: "Duplicate samples - One duplicate per every 10 samples submitted for analysis (TOC, moisture content, and cation exchange capacity)"**
Metals, VOCs, and SVOCs should also be included in the duplicate sample analyses.

15 **Page 19, Section 6.1 Streamlined Risk evaluation, 2nd sentence: "the purpose of the SRE will be to estimate possible risks of adverse effects to human health ..... as a result of exposures to COCs related to Fansteel's historical operations**
All COCs present on the site should be identified based on their presence and concentration. An industrial worker conducting excavation activities will be

exposed to all chemicals present in soils irrespective of their origin.

16 **Page 19, Section 6.1 Streamlined Risk evaluation, 5th sentence: "Off-site media of interest for this SRE include groundwater ... on the Fansteel property"**
SRE should also include off site soil media where USEPA has not conducted a remedial action. These areas could be identified from historical investigations, Fansteel's Site Investigation Report and from additional sampling during EE/CA investigation.

17 **Page 23, Section 6.1.3 Exposure Assessment and the Derivation of Risk-Based Cleanup Levels, 3rd paragraph:**
Groundwater receptor should be included in the SRE. The Vacant Lot EE/CA has considered remediating groundwater contamination using the presumptive remedy for trichloroethene (TCE). Since an off-site groundwater contamination source was present (in addition to an on-site source), this presumptive pump and treat remedy was not implemented due to a concern that more contamination would migrate from Fansteel on to Vacant Lot site. The U.S. EPA has conducted a removal action to eliminate the on-site source contributing to the groundwater contamination at MW-3 and GMMW-2 locations on Vacant Lot. Illinois state regulations pertaining to groundwater evaluation include Illinois Administrative Code (IAC) Title 35 Part 742 Subpart H Tier 2 Groundwater Evaluation.